DF

February 16, 1959

Pesticide Branch

Division of Pharmacology

Evaluation of the pharmacological data presented in support of a request to raise the present tolerance of 25 ppm HCN on certain grains to 75 ppm.

Pesticide Petition No. 195 American Cyanamid Co. (AF14-731)

The petitioners request an increase in the tolerance residue levels of HCN from 25 ppm to 75 ppm on certain grains. They claim that the postharvest treatment of these grains under the present methods of application result in residues greater than 25 ppm. The proposed tolerances would apply to barley, buckwheat, corn, milo, oats, rice, rye and wheat.

No new data on toxicity which was not considered in pesticide petition no. 39 are included in this petition. These former data are discussed in detail in our memorandum of 1-10-56 in petition no. 39. In this memorandum we stated that HCN is a very toxic substance acutely but it is rapidly detoxified by conversion into thiocyanate which has a low order of chronic toxicity. The Division of Food brought out the fact that cooking of the products from these treated grains would eliminate the traces of HCN that could remain in the milled products. Therefore, there would be no danger from the human consumption of products so treated with HCN to leave a residue of 25 ppm. Furthermore, there was sufficient animal data to show that there would be no acute intoxification to animals from grain carrying 25 ppm HCN.

This new request would still be a safe practice as far as the human food is concerned. The increase of HCN residue in products for human consumption would be driven off by the cooking process. Also the chronic animal experiments and literature references show that HCN in amounts insufficient to give acute effects are rapidly metabolized and produce no chronic toxicity. The data do not support a conclusion that grain or its by-products carrying up to 75 ppm HCN would be safe for domestic animals. Although the data are not conclusive one way or the other, there is some indication that poultry would be affected by the proposed tolerance residue of HCN in grain. The experiment with one hog and one calf is insufficient to conclude that the treated grain would be harmless to these species.

(13)

Conclusion and recommendation:

There are insufficient data presented in this petition to conclude that the proposed residue tolerance of 75 ppm HCN in treated grain would be safe for domestic animals. We recommend that this request for changing the tolerance from 25 ppm to 75 ppm HCN in grain be denied until further data are presented to show safety.

O. Garth Fitzhugh

cc: DF
DP

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2-16-59